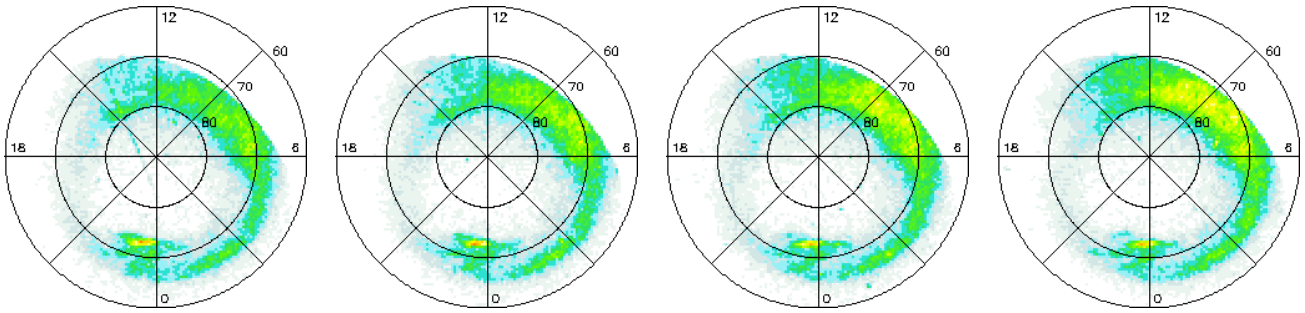
Shock-Auroral Brightening

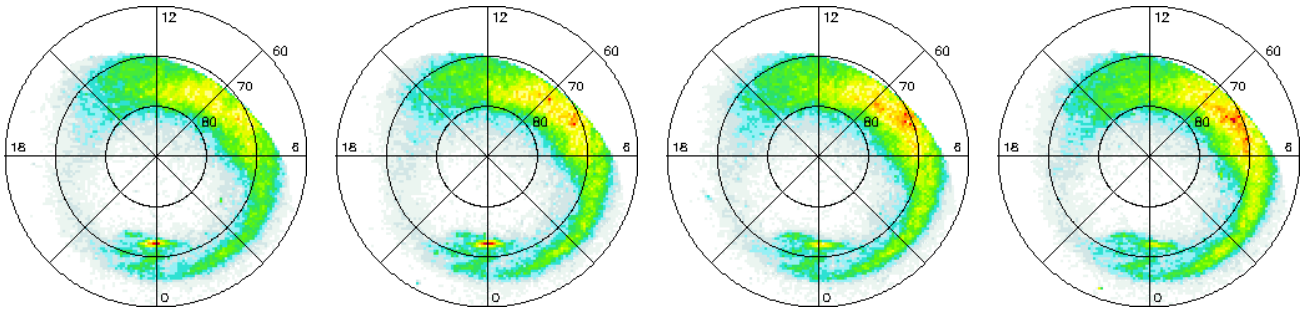


A
0:58:11 UT

B
0:58:48 UT

C
0:59:25 UT

D
1:00:02 UT

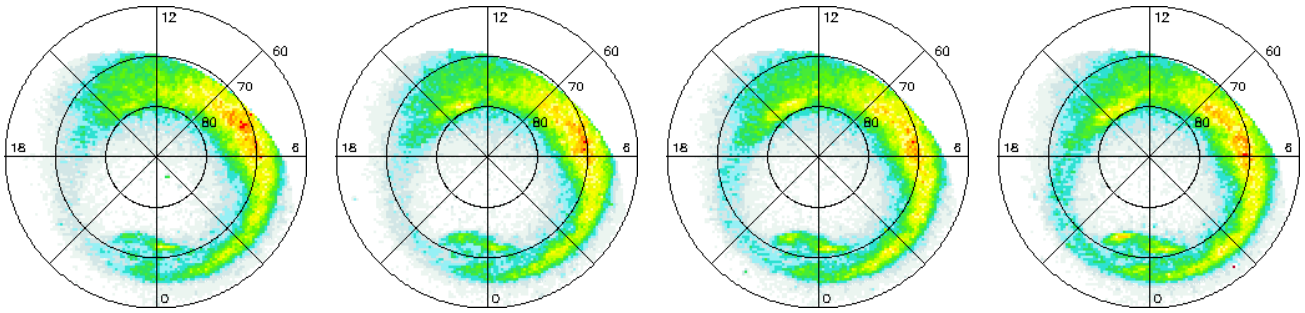


E
1:00:38 UT

F
1:01:15 UT

G
1:01:52 UT

H
1:02:29 UT

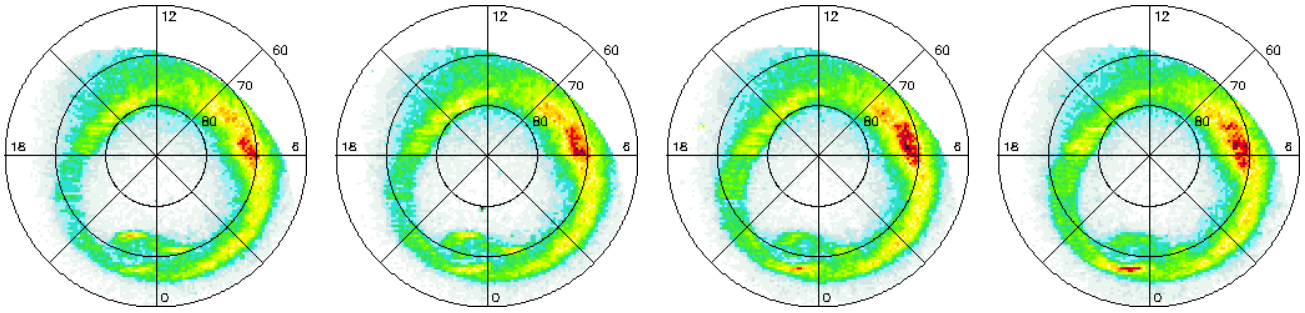


I
1:03:06 UT

J
1:03:42 UT

K
1:04:19 UT

L
1:04:56 UT



M
1:05:33 UT

N
1:06:10 UT

O
1:06:46 UT

P
1:07:23 UT

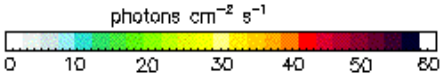


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IMAGE CAPTION May 28, 1999

New type of aurora

This series of images shows the development over time of a new type of aurora discovered by NASA's Polar spacecraft. The aurora is created when coronal mass ejections, or blobs of electrified particles, are spewed from the Sun, then zoom at super-high speed toward Earth's magnetic field. These high-speed blobs create interplanetary shock waves that ram into Earth's magnetic field.

Each image depicts a view looking down on the north pole as seen by the Polar ultraviolet imager. For each image, noon is at the top, dawn is to the right and dusk is at the left. Note that the aurora occurs between 65 and 80 degrees. The interplanetary shock arrives at 0:59:25 Universal Time and triggers an auroral brightening at about 9 a.m. local time. In subsequent images (about 1:03:42 Universal Time), the dayside aurora has spread to 3 p.m. and 2 a.m. local time. The spreading of the aurora continues with time, and is depicted by an increase in yellow and red areas.

This aurora occurred on October 1, 1997.

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5/26/99
JP